

### **REMARKS**

Claims 1-46 are pending. Claims 1, 3, 4, 6-11, 13, 14, 16-21, 23, 24, 26 and 27 have been amended for purposes of clarity and/or uniformity in claim language. Claims 17 and 20 have been further amended to recite proper claim dependency. Support for the amendments to claims 8, 9, 18 and 19 may be found, *inter alia*, at page 1, lines 12-13; page 11, lines 17-20; page 12, lines 9-13; page 13, lines 1-4 and lines 23-26; page 18, lines 14-22; and page 23, lines 5-7. Accordingly, no new matter is introduced by these amendments.

### **ELECTION/RESTRICTIONS**

The Examiner has required a restriction to one of the following inventions under 35 U.S.C. § 121:

- I. Claims 1-4, 11-14, and 28-43, drawn to a hybrid antigen comprising or consisting essentially of at least one antigenic domain of an infectious agent or tumor antigen, at least one binding domain that non-covalently binds to a heat shock protein, and a peptide linker there between, classified in class 530, subclass 350;
- II. Claims 5-7, 15-17, and 44, drawn to a method for inducing an immune response to an infectious agent, comprising administering a hybrid antigen and heat shock protein, classified in class 424, subclass 278.1;
- III. Claims 8-10, and 18-20, drawn to a method for treating an infectious disease comprising administering a hybrid antigen and heat shock protein, classified in class 424, subclass 278.1;
- IV. Claim 21, drawn to a peptide that is Phe Phe Arg Lys (FFRK; SEQ ID NO: 699); Phe Arg Lys (FRK); Phe Arg Lys Asn (FRKN, SEQ ID NO: 701); Arg Lys Asn (RKN); Phe Phe Arg Lys Asn (FFRKN, SEQ ID NO: 702); Phe Arg (FR); Gln Leu Lys (QLK), Gln Leu Glu (QLE), Ala Lys Val Leu (AKVL; SEQ ID NO: 700); Lys Asn (KN); Arg Lys (RK); or AA<sub>1</sub>-AA<sub>2</sub>-AA<sub>3</sub>-leucine (SEQ ID NO:9), wherein AA<sub>1</sub> is A, S, V, E, G, L, or K, AA<sub>2</sub> is K, V, or E; and AA<sub>3</sub> is V, S, F, K, A, E, or T, classified in class 530, subclass 300;
- V. Claims 22-24, and 45-46, drawn to a method for inducing an immune response to a tumor antigen, comprising administering a hybrid antigen and heat shock protein, classified in class 424, subclass 277.1; and

VI. Claims 25-27, partially drawn to a method for treating cancer comprising administering a hybrid antigen and heat shock protein, classified in class 424, subclass 277.1.

The Examiner contends that the inventions are distinct, each from the other.

Applicants hereby provisionally elect, with traverse, Group I, Claims 1-4, 11-14, and 28-43, drawn to a hybrid antigen comprising or consisting essentially of at least one antigenic domain of an infectious agent or tumor antigen, at least one binding domain that non-covalently binds to a heat shock protein, and a peptide linker there between.

In addition to election of one of the above inventions, the Examiner required election of one species from each of the following genera in the event that Group I is elected:

- Genus 1: the neoplastic diseases listed in claim 31;
- Genus 2: the infectious agents listed in claim 32;
- Genus 3: the types of bacteria listed in claim 34;
- Genus 4: the types of viruses listed in claim 36;
- Genus 5: the types of protozoa listed in claim 38; and
- Genus 6: the different hsp70 family members listed in claim 39.

Additionally, the Examiner required election of one of the following species of peptide linkers in the event that Group I or Group IV is elected:

- Species 1: Phe Phe Arg Lys (FFRK; SEQ ID NO:699);
- Species 2: Phe Arg Lys (FRK);
- Species 3: Phe Arg Lys Asn (FRKN, SEQ ID NO:701);
- Species 4: Arg Lys Asn (RKN);
- Species 5: Phe Phe Arg Lys Asn (FFRKN, SEQ ID NO:702);
- Species 6: Phe Arg (FR);
- Species 7: Gln Leu Lys (QLK);
- Species 8: Gln Leu Glu (QLE);
- Species 9: Ala Lys Val Leu (AKVL; SEQ ID NO:700);
- Species 10: Lys Asn (KN);
- Species 11: Arg Lys (RK); and
- Species 12: AA<sub>1</sub>-AA<sub>2</sub>-AA<sub>3</sub>-leucine (SEQ ID NO:9), wherein AA<sub>1</sub> is A, S, V, E, G, L, or K, AA<sub>2</sub> is K, V, or E; and AA<sub>3</sub> is V, S, F, K, A, E, or T.

In order to be fully responsive, Applicants hereby provisionally elect with traverse from Genus 1, melanoma; from Genus 2, a virus; from Genus 3, *Streptococcus*; from Genus 4, herpes virus; from Genus 5, a malarial parasite; and from Genus 6, hsc70. With respect to the species of peptide linkers, Applicants hereby provisionally elect with traverse, Species 1: Phe Phe Arg Lys (FFRK; SEQ ID NO:699)

Applicants believe that the claims within elected Group I that are readable upon the elected species are as follows:

melanoma: Claims 1-4, 11-14, 28, 30-31, and 39-43;  
a virus: Claims 1-4, 11-14, 28-29, 32, 35-36, and 39-43;  
*Streptococcus*: Claims 1-4, 11-14, 28-29; 32-34, and 39-43  
herpes virus: Claims 1-4, 11-14, 28-29, 32, 35-36, and 39-43;  
a malarial parasite: Claims 1-4, 11-14, 28-29, 32, 37-43;  
hsc70: Claims 1-4, 11-14, and 28-43; and  
Species 1, Phe Arg Lys (FFRK; SEQ ID NO:699): Claims 1-4, 11-14, and 28-43.

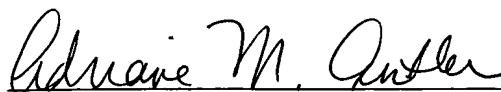
Upon the allowance of a product claim, Applicants request that any withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim be rejoined in accordance with the provisions of M.P.E.P. § 821.04. Presently, Applicants believe that the process claims 5-10, 15-20, 22-27 and 44-46 include all the limitations of a pending product claim within elected Group I.

Applicants fully reserve the right to prosecute the subject matter of the non-elected inventions in one or more related applications. In addition, Applicants retain the right to petition from the restriction requirement under 37 C.F.R. § 1.144.

Applicants respectfully request that the above remarks and amendments be entered and made of record in the file history of the instant application.

Respectfully submitted,

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